

Semifactives in Comparatives

This is more complicated than I realized. How are we to understand the status of *realize*'s complement in a sentence like this? What sort of relationship must this complement bear to its matrix environment, in light of *realize*'s status as a cognitive factive/semifactive predicate (Kiparsky & Kiparsky 1970, Karttunen 1971)? Comparative constructions, I suggest, do much to illuminate the nature of semifactives and their presuppositions. Specifically, I propose that semifactives support graded awareness—knowledge of something less, but not more, than the full truth—while requiring that their complement be informationally consistent with the matrix environment, rather than presupposed true. The picture that emerges fits naturally with pragmatic approaches to presupposition generation and projection (Beaver 2010, Simons et al. 2017, Degen & Tonhauser 2022) and depends on sensitivity to scalar polarity and orientation (Kennedy 2001).

We begin with a key contrast to set the scene:

- (1) a. She is taller than I realized.
- b. #She is not as tall as I realized.

It appears we can use a gradable construction with *realize* to express that someone's knowledge was incomplete, as in (1a), but not that their knowledge (as it were) surpassed what is actual, as in (1b). This much is consistent with the intuition that semifactives encode a knowledge relation, and that one can know less but not more than the whole truth (cf. Vlach 1974). Let us call this property GRADED AWARENESS. (Note that *realize* is representative of cognitive factives/semifactives quite generally; see the supplementary examples on p. 3 for more.)

A few wrinkles emerge in examples like the following:

- (2) a. Suppose she was taller than you realized.
- b. #Suppose she was not as tall as you realized.
- (3) a. A Disney vacation is less expensive than I realized.
- b. He is shorter than I realized.

The examples in (2) show that the truth relation in question is relativized to the (in this case, displaced) matrix context: even in the absence of any claim about the addressee's actual knowledge state, (2b) is not a coherent suppositional task (cf. Yalcin 2007). Meanwhile, in the presence of *less* or a downward-oriented gradable adjective like *short*, the realizer's erstwhile misapprehension overshoots, rather than undershoots, the actual scalar value in question, as in (3). Our notion of graded awareness must take scalar orientation into account.

An off-the-shelf comparative semantics yields the truth conditions in (4) for (1a) (assuming that *realize*'s complement inside the *than*-clause has undergone comparative deletion).

- (4) $\text{MAX}(\lambda d . \text{she is } d\text{-tall}) > \text{MAX}(\lambda d . \text{I realized she was } d\text{-tall})$

To make sense of (4), we must say what the degree description on the right-hand side of the inequality actually amounts to. In particular, we must give some content to the expression 'I realized she was *d*-tall' for a given value of *d*. For present purposes I suggest that the propositional attitude encoded by *realize* is simply knowledge: to realize that she was *d*-tall is to (come to) know the proposition that she was *d*-tall. The right-hand degree description then yields the maximal *d* such that the speaker knew the proposition that she was *d*-tall. If *realize* expresses graded awareness, then this maximal *d* may lag but not exceed the actual height of the 'she' in question. This explains the contrast between the acceptable *A-er* and the unacceptable *not as A as* cases in (1) and (2). The latter are true just in

case the speaker knows a proposition that asymmetrically entails its strongest true-in-context scalar alternative; but this is just what knowledge cannot do (cf. the felicity of *She is not as tall as I thought*).

The downward-oriented scalar examples in (3) immediately call for a refinement and generalization of the picture above. Blindly applying our off-the-shelf maximality semantics to such cases yields the right degree inequality but makes a hash of graded awareness; (5) shows the result for (3a).

$$(5) \quad \text{MAX}(\lambda d. \text{Disney is } d\text{-expensive}) < \text{MAX}(\lambda d. \text{I realized Disney was } d\text{-expensive})$$

On our assumptions, the expression in (5) is true just in case the speaker knew the proposition that a Disney vacation was d -expensive, for some d that exceeds its actual greatest degree of expensiveness. But this is precisely the configuration to which we have just attributed the infelicity of (1b).

Here we can appeal to a core insight of the gradability literature: gradable semantics involves not just scalar position but also scalar orientation. Comparatives with *-er* compare scalar positions with respect to the scale's lower bound; those with *less*, the scale's upper bound (implementations vary; see, e.g., Heim 2001, Kennedy 2001, Schwarzschild 2013). The *less* comparison in (3a) is thus a comparison of degrees of *inexpensiveness*, with the speaker asserting that their earlier knowledge of a Disney vacation's inexpensiveness was incomplete. (The same goes, *mutatis mutandis*, for *shorter* in (3b).) A proper accounting of the scalar semantics brings things back in line with graded awareness.

It bears emphasizing that semifactives offer novel support for this orientation-based semantics of gradability. In simple cases, *not as A as* and *less A than* are equivalent: (6a) is true iff (6b) is. With a semifactive like *realize* in the standard clause, the two cases come apart, as in (7). Armed with a notion of graded awareness—properly informed by an orientation-sensitive scalar semantics—we can account for this initially surprising disparity.

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| (6) | a. She is not as tall as he is. | (7) | a. #She is not as tall as I realized. |
| | b. She is less tall than he is. | | b. She is less tall than I realized. |

Finally, we turn to the presuppositional status of the semifactive complement. The initial interest of examples like (1a) stems in part from their poor fit with the classical picture of factivity. We cannot simply isolate *realize*'s elided complement and presuppose it true, not least because it contains a locally free degree variable. Moreover, even after conducting the requisite maximality calculation as in (4), an interlocutor need not know anything about the content of *realize*'s complement beyond the fact that it is asymmetrically entailed by the matrix degree predication; but this is just what the sentence as a whole entails. We are quite far from a traditional factive presupposition.

Fortunately, this is just what recent pragmatic approaches to presupposition generation and projection would lead us to expect. The semifactive complement in (1a) addresses the same issue as the matrix clause, namely how tall 'she' is. As a host of researchers have recently argued, when this type of content addresses the question under discussion or the main point of the utterance, it is *ipso facto* not backgrounded and will tend not to project (Beaver 2010, Abrusán 2011, 2016, Simons et al. 2017). The only constraint in view here is the one tied to graded awareness and the knowledge relation itself, prohibiting a complement that asymmetrically entails the matrix gradable predication. We can maintain the view that semifactives like *realize* require consistency between their complement and matrix environment as a matter of their lexical semantics, even as the complement fails on independent pragmatic grounds to qualify as projective content.

The study of semifactives in comparatives thus has much to show us about both domains, providing support for orientation-sensitive approaches to gradability and pragmatic approaches to projection.

Supplementary examples

- (8) Our Constitution was a far more dramatic departure from history than I had appreciated.
(<https://www.romney.senate.gov/our-constitutional-order-freedom-responsibility-and-power>)
- (9) I'm feeling, as I'm starting to get a little distance, that this record may be better than I was aware of.
(<https://www.loudersound.com/news/lars-ulrich-metallica-album-may-be-better-than-i-was-aware-of>)
- (10) This sequencing of images in a physical book feels so much closer to films (movies, not physical Kodak film-film), than I had noticed before.
(<https://craigmod.com/roden/041/>)

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